

WHAT IS CLAIMED IS:

1. An applicator nozzle comprising:
 - an attachment portion configured to attach the nozzle to a receptacle configured to contain a product; and
 - an arrangement of at least two teeth disposed so as to form at least one row comprising first and second end teeth, at least one of the teeth of the arrangement defining a channel being configured to be placed in flow communication with product contained in the receptacle, the channel opening on an exterior of the at least one tooth via at least one outlet aperture facing substantially in a direction of at least one adjacent tooth,
 - wherein the nozzle defines at least one groove,
 - wherein the outlet aperture opens into the groove,
 - wherein the groove extends from the outlet aperture substantially to a free extremity of the at least one tooth,
 - wherein the arrangement is formed by a single molded piece, and
 - wherein the arrangement is configured so as to present an obstacle to product flowing from the at least one outlet aperture beyond said first and second end teeth.
2. The applicator nozzle of claim 1, wherein the arrangement comprises at least one intermediate tooth located between said first and second end teeth, said intermediate tooth defining the channel.

3. The applicator nozzle of claim 2, wherein the at least one intermediate tooth defines a channel opening on an exterior of the at least one intermediate tooth via two outlet apertures facing in opposite directions.

4. The applicator nozzle of claim 1, wherein the first and second end teeth are devoid of outlet apertures facing in a respective direction away from a respective adjacent tooth.

5. The applicator nozzle of claim 4, wherein the first and second end teeth are devoid of outlet apertures.

6. The applicator nozzle of claim 4, wherein the first and second end teeth are solid.

7. The applicator nozzle of claim 1, wherein the outlet aperture is disposed proximate a free extremity of the at least one tooth.

8. The applicator nozzle of claim 7, wherein the outlet aperture is spaced from the free extremity of the at least one tooth.

9. The applicator nozzle of claim 1, wherein the attachment portion comprises screw threading configured to engage with corresponding screw threading associated with the receptacle.

10. The applicator nozzle of claim 9, wherein the screw threading of the attachment portion is configured to engage with screw threading on a neck portion of the receptacle.

11. The applicator nozzle of claim 1, wherein the at least one aperture is located on a lateral surface of the at least one tooth.

12. The applicator nozzle of claim 1, wherein the nozzle is configured to apply product to hair on an individual's head.

13. The applicator nozzle of claim 1, wherein the arrangement is configured so as to present an obstacle to product flowing substantially on respective sides of the end teeth facing away from adjacent teeth.

14. The applicator nozzle of claim 1, wherein the arrangement is configured to present an obstacle to product flowing in a direction of the at least one aperture.

15. The applicator nozzle of claim 1, wherein the channel extends substantially along a length of the at least one tooth.

16. The applicator nozzle of claim 1, wherein the groove is substantially elongate.

17. The applicator nozzle of claim 1, wherein the groove extends substantially along a length of the at least one tooth.

18. An applicator assembly, comprising:
a receptacle configured to contain a product; and
the applicator nozzle of claim 1 attached to the receptacle,

19. The applicator assembly of claim 18, further comprising a product contained in the receptacle.

20. The applicator assembly of claim 19, wherein the product is a cosmetic product.

21. The applicator assembly of claim 19, wherein the product is a product intended for application to hair on an individual's head.

22. The applicator assembly of claim 18, wherein the receptacle comprises a tube.

23. The applicator assembly of claim 22, wherein the tube is deformable.

24. A mold for molding an applicator nozzle, the mold comprising:

a female mold element comprising

a first portion configured to form an attachment portion of the applicator nozzle,

the attachment portion configured to be attached to a receptacle, and

at least one second portion extending from the first portion and being configured

to form at least one tooth of the applicator nozzle; and

a male mold element forming a core configured to be inserted into the female mold

element, the male mold element comprising

a first part configured to be received within the first portion of the female

mold element to form the attachment portion, and

at least one second part configured to be received within the second

portion of the female mold element so as to form a channel within the at least

one tooth, the at least one second part of the male mold element and the at least

one second portion of the female mold element being configured so as to form at

least one outlet aperture disposed on a side of the tooth facing an adjacent tooth.

25. The mold of claim 24, wherein the at least one second portion of the female mold element comprises a boss on an inner lateral surface thereof, the boss projecting toward a center of the at least one second portion and extending from a location spaced from an end of an interior of the at least one second portion to the end of the interior of the at least one second portion so as to form a groove and part of the at least one outlet aperture of the tooth.

26. The mold of claim 25, wherein one end of the at least one second part of the male mold element is configured to fit with an end of the boss that is spaced from the end of the interior of the second portion of the female mold element so as to form another part of the at least one outlet aperture of said hollow tooth.

27. The mold of claim 24, wherein the female mold element further comprises two second end portions extending from the first portion of the female mold element, the two second end portions being configured to form solid end teeth of the applicator nozzle, and the at least one second portion of the female element being disposed between the two second end portions.

28. The mold of claim 27, wherein the at least one second portion is designed to form at least one hollow tooth, the at least one second portion having bosses on opposing inner lateral surfaces configured to form two opposite facing grooves and a part of two opposite facing outlet apertures of the hollow tooth.

29. The mold of claim 28, wherein an end of the at least one second part of the male mold element is configured to be inserted between end portions of the bosses that are spaced at a distance from ends of interiors of the second portions of the female mold element so as to form the other part of the opposite facing outlet apertures of said hollow tooth.

30. The mold of claim 28, wherein the cross-section of each boss viewed in a plane perpendicular to a lengthwise direction of the at least one second portion of the female mold element is substantially constant or decreasing toward a boss end spaced from an end of an interior of the second portion.

31. The mold of claim 24, wherein the female mold element and the male mold element each comprise an alignment portion configured to engage with each other during assembly of the male mold element and the female mold element.

32. The mold of claim 31, wherein the alignment portion comprises at least three guide posts oriented substantially along a length of the mold, the guide posts being integral with one of the male or female mold elements and the other of the female or male mold elements being configured to slide on the guide posts during assembly of the mold.

33. The mold of claim 24, wherein the at least one second part of the male mold element and the at least one second part of the female mold element are configured to form a groove on an external surface of the tooth.

34. The mold of claim 24, wherein the mold is configured to form an applicator nozzle comprising:

- an attachment portion configured to attach the nozzle to a receptacle configured to contain a product; and

- an arrangement of at least two teeth disposed so as to form at least one row comprising first and second end teeth, at least one of the teeth of the arrangement defining a channel being configured to be placed in flow communication with product contained in the receptacle, the channel opening on an exterior of the at least one tooth via at least one outlet aperture facing substantially in a direction of at least one adjacent tooth,

- wherein the nozzle defines at least one groove,

- wherein the outlet aperture opens into the groove,

- wherein the groove extends from the outlet aperture substantially to a free extremity of the at least one tooth,

- wherein the arrangement is formed by a single molded piece, and

- wherein the arrangement is configured so as to present an obstacle to product flowing from the at least one outlet aperture beyond said first and second end teeth.

35. The mold of claim 24, wherein the first and second parts of the male mold element are configured to fit relatively loosely within the respective first and second portions of the female mold element.

36. A method for molding an applicator nozzle, the method comprising:

providing the mold of claim 24;

inserting the male element into the female element;

injecting a moldable material between the female and male elements;

separating the female element and the male element; and

ejecting the molded applicator nozzle from the mold.

37. The method of claim 36, wherein the moldable material comprises a polymer material.

38. The method of claim 36, further comprising curing the moldable material.

39. An applicator nozzle comprising:

an attachment portion configured to attach the nozzle to a receptacle configured to contain a product;

an arrangement of at least two teeth disposed in at least one row comprising first and second end teeth, at least one of the teeth of the arrangement defining a channel

configured to be placed in flow communication with product in the receptacle, the channel opening on an exterior of the at least one tooth via at least one outlet aperture facing in a direction of at least one adjacent tooth,

wherein the at least one tooth defines at least one groove having a first end into which the at least one outlet aperture opens and a second end located substantially at a free extremity of the at least one tooth.

40. The applicator nozzle of claim 39, wherein the arrangement comprises at least one intermediate tooth located between the first and second end teeth, the intermediate tooth defining the channel.

41. The applicator nozzle of claim 40, wherein the at least one intermediate tooth defines a channel opening on an exterior of the at least one intermediate tooth via two outlet apertures facing in opposite directions.

42. The applicator nozzle of claim 39, wherein the first and second end teeth are devoid of outlet apertures that face in directions away from adjacent teeth.

43. The applicator nozzle of claim 42, wherein the first and second end teeth are devoid of outlet apertures.

44. The applicator nozzle of claim 42, wherein the first and second end teeth are solid.
45. The applicator nozzle of claim 39, wherein the at least one outlet aperture is disposed proximate the free extremity of the at least one tooth.
46. The applicator nozzle of claim 45, wherein the at least one outlet aperture is spaced from the free extremity of the at least one tooth.
47. The applicator nozzle of claim 39, wherein the attachment portion comprises screw threading configured to engage with corresponding screw threading associated with the receptacle.
48. The applicator nozzle of claim 47, wherein the screw threading of the attachment portion is configured to engage with screw threading on a neck portion of the receptacle.
49. The applicator nozzle of claim 39, wherein the at least one aperture is located on a lateral surface of the at least one tooth.

50. The applicator nozzle of claim 39, wherein the nozzle is configured to apply product to hair on an individual's head.

51. The applicator nozzle of claim 39, wherein the arrangement is configured so as to present an obstacle to product flowing beyond the first and second end teeth.

52. The applicator nozzle of claim 39, wherein the arrangement is configured so as to present an obstacle to product flowing substantially on respective sides of the first and second end teeth facing away from adjacent teeth.

53. The applicator nozzle of claim 39, wherein the channel extends substantially along a length of the at least one tooth.

54. The applicator nozzle of claim 39, wherein the groove is substantially elongate.

55. The applicator nozzle of claim 39, wherein the groove extends substantially along a length of the at least one tooth.

56. An applicator assembly, comprising:

a receptacle configured to contain a product; and

the applicator nozzle of claim 39 attached to the receptacle,

57. The applicator assembly of claim 56, further comprising a product contained in the receptacle.

58. The applicator assembly of claim 57, wherein the product is a cosmetic product.

59. The applicator assembly of claim 57, wherein the product is a product intended for application to hair on an individual's head.

60. The applicator assembly of claim 56, wherein the receptacle comprises a tube.

61. The applicator assembly of claim 60, wherein the tube is deformable.

62. An applicator nozzle comprising:

an attachment portion configured to attach the nozzle to a receptacle configured to contain a product;

an arrangement of at least two teeth disposed in at least one row comprising first and second end teeth, at least one of the teeth of the arrangement defining a channel configured to be placed in flow communication with product contained in the receptacle, the channel opening on an exterior of the tooth via at least one outlet aperture facing in the direction of an adjacent tooth,

wherein the arrangement is formed by a single molded piece,

wherein the arrangement is configured so as to present an obstacle to flow of product from the outlet aperture beyond the first and second end teeth, and

wherein the end teeth are devoid of outlet apertures.

63. The applicator nozzle of claim 62, wherein the arrangement comprises at least one intermediate tooth located between said first and second end teeth, said intermediate tooth defining the channel.

64. The applicator nozzle of claim 63, wherein the at least one intermediate tooth defines a channel opening on an exterior of the at least one intermediate tooth via two outlet apertures facing in opposite directions.

65. The applicator nozzle of claim 62, wherein the first and second end teeth are solid.

66. The applicator nozzle of claim 62, wherein the outlet aperture is disposed proximate a free extremity of the at least one tooth.

67. The applicator nozzle of claim 67, wherein the outlet aperture is spaced from the free extremity of the at least one tooth.

68. The applicator nozzle of claim 62, wherein the attachment portion comprises screw threading configured to engage with corresponding screw threading associated with the receptacle.

69. The applicator nozzle of claim 68, wherein the screw threading of the attachment portion is configured to engage with screw threading on a neck portion of the receptacle.

70. The applicator nozzle of claim 62, wherein the at least one aperture is located on a lateral surface of the at least one tooth.

71. The applicator nozzle of claim 62, wherein the nozzle is configured to apply product to hair on an individual's head.

72. The applicator nozzle of claim 62, wherein the arrangement is configured so as to present an obstacle to product flowing substantially on respective sides of the end teeth facing away from adjacent teeth.

73. The applicator nozzle of claim 62, wherein the channel extends substantially along a length of the at least one tooth.

74. The applicator nozzle of claim 62, further comprise a groove on the at least one tooth, the groove being configured to receive product flowing from the outlet aperture.

75. The applicator nozzle of claim 74, wherein the groove extends from the outlet aperture substantially to a free extremity of the at least one tooth.

76. The applicator nozzle of claim 74, wherein the groove is substantially elongate.

77. The applicator nozzle of claim 74, wherein the groove extends substantially along a length of the at least one tooth.

78. An applicator assembly, comprising:

a receptacle configured to contain a product; and

the applicator nozzle of claim 61 attached to the receptacle.

79. The applicator assembly of claim 78, further comprising a product contained in the receptacle.

80. The applicator assembly of claim 79, wherein the product is a cosmetic product.

81. The applicator assembly of claim 78, wherein the product is a product intended for application to hair on an individual's head.

82. The applicator assembly of claim 78, wherein the receptacle comprises a tube.

83. The applicator assembly of claim 82, wherein the tube is deformable.

84. An applicator nozzle comprising:

a plurality of teeth, at least one of the teeth defining a channel configured to be placed in flow communication with a receptacle containing a product;

at least one outlet aperture in flow communication with the channel, the outlet aperture opening to an exterior of the tooth on an external lateral surface of the at least one tooth; and

at least one groove configured to receive product exiting the at least one outlet aperture, the groove extending from the outlet aperture substantially to a free extremity of the at least one tooth,

wherein the at least one groove faces an adjacent tooth.

85. The applicator nozzle of claim 84, wherein the plurality of teeth form a row, the row including the at least one tooth and first and second end teeth, the first and second end teeth being devoid of outlet apertures facing in a direction away from an adjacent tooth.

86. The applicator nozzle of claim 85, wherein the first and second end teeth are solid.

87. An applicator assembly comprising:

the applicator nozzle of claim 84; and

a receptacle configured to contain a product to be applied with the applicator nozzle.

88. The applicator assembly of claim 87, further comprising an attachment portion configured to attach the applicator nozzle to the receptacle.

89. The applicator assembly of claim 87, further comprising the product contained in the receptacle.

90. The applicator assembly of claim 89, wherein the product is intended for application to hair on an individual's head.

91. An applicator nozzle comprising:
at least two teeth arranged in at least one row, at least one tooth of the row having at least one outlet aperture configured to permit product to flow therethrough for application to a surface, wherein at least one other tooth of the row is devoid of any outlet aperture,
wherein the at least two teeth are formed from a single molded piece, and
wherein the outlet aperture faces in a direction of an adjacent tooth.

92. The applicator nozzle of claim 91, wherein the at least one other tooth includes two teeth disposed at opposite ends of the row.

93. The applicator nozzle of claim 91, wherein the at least one tooth having at least one outlet aperture defines a channel in flow communication with the outlet aperture.

94. The applicator nozzle of claim 93, wherein the channel extends substantially along a length of the at least one tooth.

95. The applicator nozzle of claim 91, wherein the at least one tooth having at least one outlet aperture defines a groove extending on an external surface of the tooth from the outlet aperture substantially to a free extremity of the tooth.

96. The applicator nozzle of claim 91, wherein the at least one other tooth is solid.

97. An applicator assembly comprising:

the applicator nozzle of claim 91; and

a receptacle configured to contain a product to be applied with the applicator nozzle.

98. The applicator assembly of claim 97, further comprising an attachment portion configured to attach the applicator nozzle to the receptacle.

99. The applicator assembly of claim 97, further comprising the product contained in the receptacle.

100. The applicator assembly of claim 99, wherein the product is intended for application to hair on an individual's head.

101. An applicator nozzle comprising:

a row of teeth formed by a single molded piece construction, the row of teeth comprising

at least one tooth defining a channel configured to allow product to flow therethrough, the channel opening on an exterior of the tooth via at least one outlet aperture facing in a direction of an adjacent tooth, and

a first end tooth located at a first end of the row and a second end tooth located at a second end of the row, wherein the first and second end teeth are devoid of any respective outlet apertures facing in a direction away from an adjacent tooth.

102. The applicator nozzle of claim 101, wherein the first and second end teeth are solid.

103. The applicator nozzle of claim 101, wherein the first and second end teeth are devoid of any outlet aperture.

104. The applicator nozzle of claim 101, wherein the at least one tooth defines a groove configured to receive product from the outlet aperture.

105. The applicator nozzle of claim 104, wherein the groove is on an external surface of the at least one tooth.

106. The applicator nozzle of claim 104, wherein the groove extends from the outlet aperture substantially to a free extremity of the at least one tooth.

107. An applicator assembly comprising:

the applicator nozzle of claim 101; and

a receptacle configured to contain a product to be applied with the applicator nozzle.

108. The applicator assembly of claim 107, further comprising an attachment portion configured to attach the applicator nozzle to the receptacle.

109. The applicator assembly of claim 107, further comprising the product contained in the receptacle.

110. The applicator assembly of claim 107, wherein the product is intended for application to hair on an individual's head.